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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,576	10/31/2003	Sara A. Kerner	070602-0400	1577

31824 7590 01/12/2007
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EXAMINER

PATEL, SHAMBHAVI K

ART UNIT	PAPER NUMBER
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2128

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/699,576

Applicant(s)

KERNER ET AL.

Examiner

Shambhavi Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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DETAILED ACTION

1. Claims 1-20 are pending.

Priority

2. Acknowledgment is made of applicant's claim for priority to provisional application 60/423,322 filed on 01 November 2002.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1-5, 7-8, 10-11 and 14-20 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by “Powerful 3D-visualization for demanding users”, herein referred to as VirtualGIS.

Regarding claim 1:

VirtualGIS discloses a visualization system for a computer system including:

- a. a positioning portion configured to determine a position of a viewer with respect to a virtual geographic location and a modeling portion configured to specify the virtual geographic location in response to a three-dimensional model of the virtual geographic location (“Viewing the world in beautiful 3D” 1st paragraph). VirtualGIS is a 3D visualization tool. The software is configured based on the geographic position of the

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viewer. Thus, based on the position of the viewer a 3D model is developed and the image is displayed.

- c. a model specification portion configured to specify a representation of satellite status data in response to the position of the viewer with respect to the virtual geographic location and in response to the satellite status data (**"Data for the 3D world" 1st paragraph**).
- d. a three-dimensional output portion configured to provide at least two images of the virtual geographic location and the representation of the satellite status data to the viewer in response to the position of the viewer with respect to the virtual geographic location (**"Viewing the world in beautiful 3D" 2nd paragraph**)

Regarding claim 2:

VirtualGIS discloses the visualization system of claim 1 wherein the positioning portion comprises:

- a. an image acquisition source configured to capture at least an image comprising an image of a physical location (**"Data for the 3D World" 1st paragraph scanning photographs**), and an image of at least a pre-determined marker (**"3D analysis" observers**)
- b. an image processing system configured to determine the position of the viewer in the physical location in response to the image of the pre-determined marker (**"3D analysis"**)
- c. a virtual positioning portion configured to translate the position of the view in the physical location to a position of the viewer in the virtual geographic location (**"Navigating the 3D world"**)

Regarding claim 3:

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VirtualGIS discloses the visualization system of claim 1 wherein the three-dimensional model comprises a VRML model (“Data for the 3d World” 1st paragraph; “Output”).

Regarding claim 4:

VirtualGIS discloses the visualization system of claim 1 wherein the representation of the satellite data comprises a representation of the current position (“Data for the 3d World” 1st paragraph satellite images showing observers current position).

Regarding claim 5:

VirtualGIS discloses the visualization system of claim 2 wherein the three-dimensional output portion comprises a heads-up pair of glasses (“Viewing the world in beautiful 3D” 2nd paragraph).

Regarding claim 7:

VirtualGIS discloses the visualization system of claim 5 wherein the heads-up pair of glasses area also configured to allow the viewer to view the physical location (“Viewing the world in beautiful 3D” 2nd paragraph).

Regarding claim 8:

VirtualGIS discloses a method for a computer system comprising:

- a. determining a position of a view with respect to a virtual geographic location and determining a model of the virtual geographic location in response to a three-dimensional model of the virtual geographic location (“Viewing the world in beautiful 3D” 1st paragraph). VirtualGIS is a *3D visualization tool*. The software is configured based on

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the *geographic position of the viewer*. Thus, based on the position of the viewer a 3D model is developed and the image is displayed

- b. determining a representation of satellite status data in response to the position of the viewer with respect to the virtual geographic location and in response to the satellite status data (“Data for the 3D world” 1st paragraph).
- c. displaying to the viewer a three-dimensional representation of the virtual geographic location and the representation of the satellite status data in response to the position of the viewer with respect to the virtual geographic location (“Viewing the world in beautiful 3D” 2nd paragraph)

Regarding claim 10:

VirtualGIS discloses the visualization system of claim 8 wherein the three-dimensional model comprises a VRML model (“Data for the 3d World” 1st paragraph; “Output”).

Regarding claim 11:

VirtualGIS discloses the visualization system of claim 8 wherein the representation of the satellite data comprises a representation of the current position (“Data for the 3d World” 1st paragraph satellite images showing observers current position).

Regarding claim 14:

VirtualGIS discloses the method of claim 12, wherein the viewer views the physical location at the same time as the three-dimensional representation of the virtual geographic location (“Data for the 3D World”). The two images are superimposed.

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Regarding claim 15:

VirtualGIS discloses a visualization method for a computer system comprising:

- a. displaying to a viewer a three-dimensional representation of a virtual location (**"Viewing the world in beautiful 3D" 1st paragraph**), a representation of the satellite status data as overlays on the physical location (**"Data for the 3D World"**)
- b. wherein the representation of the virtual location is determined in response to a model of the virtual location, and in response to a position of the viewer with respect to the model of the virtual location (**"Data for the 3D world" 1st paragraph**)
- c. wherein the representation of the satellite data is determined in response to satellite status data, and in response to a position of the viewer with respect to the model of the virtual location (**"Viewing the world in beautiful 3D" 2nd paragraph; "Data for the 3D World"**)

Regarding claim 16:

VirtualGIS discloses the visualization method of claim 15 wherein the position of the viewer with respect to the model of the virtual location is determined in response to an image of a pre-determined marker in the physical location taken from a vantage point of a viewer, and in response to a correspondence between the virtual location and the physical location ("3D analysis" observers).

Regarding claim 17:

VirtualGIS discloses the visualization method of claim 15 wherein the representation of the satellite data comprises a representation of the current position ("Data for the 3d World" 1st paragraph satellite images showing observers current position).

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Regarding claim 18:

VirtualGIS discloses the visualization method of claim 15 wherein the three-dimensional representation comprises displaying a first and a second image to the viewer with a pair of heads-up glasses ("Viewing the world in beautiful 3D" 2nd paragraph).

Regarding claim 19:

VirtualGIS discloses the visualization method of claim 15 further comprising displaying a selection of a portion of the virtual location by the viewer to the viewer wherein the viewer selection is determined in response to a position of a viewer-controlled marker with respect to the model of the virtual location ("Navigating the 3D World"; "3D Analysis").

Regarding claim 20:

VirtualGIS discloses the visualization method of claim 19 wherein displaying the selection comprises overlaying an icon over the portion of the virtual location to the viewer ("Data for the 3D World" annotation).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. **Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over “Powerful 3D-visualization for demanding users”, herein referred to as VirtualGIS, in view of Starner (“Towards Augmented Reality Gaming” 2000) in view of Starner (“Towards Augmented Game Reality”).**

Regarding claim 6:

VirtualGIS does not explicitly disclose coupling the acquisition source to the glasses. Starner teaches the use of a heads-up pair of glasses equipped with two small camera heads (Starner: “The Audio/Video Mobile Interface” 1st paragraph). At the time of the invention, it would have been obvious to one of ordinary skill in the art to combine the teachings of VirtualGIS and Starner because the configuration of Starner creates a more power mobile augmented virtual reality (Starner: “The Audio/Video Mobile Interface” 1st paragraph).

5. **Claims 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over “Powerful 3D-visualization for demanding users”, herein referred to as VirtualGIS, in view of Starner**

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(“Towards Augmented Reality Gaming” 2000) in view of Coltekin (“VRML as a Tool for Web-based, 3D, Photo-Realistic GIS”).

Regarding claim 9:

VirtualGIS discloses:

- a. capturing an image comprising a physical location with at least one pre-determined marker (“Data for the 3D World” 1st paragraph scanning photographs; “3D analysis” observers)
- b. determining a position and orientation of the viewer in the physical location with at least one predetermined marker (“3D analysis”)
- c. determining the position of the viewer in the virtual geographic location in response to the position and orientation of the viewer in the physical location (“Navigating the 3D world”)

VirtualGIS does not explicitly disclose capturing the images with a video camera. Coltekin teaches capturing GIS images with a video camera (“Data and Implementation” 1st paragraph). At the time of the invention, it would have been obvious to a skilled artisan to combine the teachings of VirtualGIS and Coltekin because the use of a video camera to capture images is a well-known technique that is often used in GIS systems.

Regarding claim 12:

VirtualGIS discloses the visualization system of claim 9 wherein the three-dimensional representation comprises displaying a first and a second image to the viewer with a pair of heads-up glasses (“Viewing the world in beautiful 3D” 2nd paragraph).

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shambhavi Patel whose telephone number is (571) 272-5877. The examiner can normally be reached on Monday-Friday, 8:00 am – 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on (571)272-2279. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SKP

Shambhavi Patel
Examiner
Art Unit 2128


KAMINI SHAH
SUPERVISORY PATENT EXAMINER